

That which is claimed is:

1. A method of making attrition resistant microspheroidal particles comprising
spray drying a slurry comprising an inorganic sol, an inorganic non-sol, and an
attrition modifier to form spray dried particles.

2. The method of claim 1 wherein the inorganic sol comprises silica sol.

3. The method of claim 1 wherein the inorganic non-sol comprises fumed silica.

4. The method of claim 1, further comprising calcining the spray dried particles.

5. The method of claim 4 wherein at least a portion of the calcined particles is
recycled as an attrition modifier.

6. The method of claim 1 wherein the slurry comprises up to 35 wt.% attrition
modifier based on total weight of solids in the slurry.

7. The method of claim 1 wherein the attrition modifier is obtained by spray
drying a slurry comprising an inorganic sol and an inorganic non-sol.

8. The method of claim 1 wherein the attrition modifier is obtained by spray
drying a slurry comprising an inorganic sol and an inorganic non-sol to form particles
which are calcined.

9. The method of claim 7 wherein the inorganic sol comprises silica sol.

10. The method of claim 7 wherein the inorganic non-sol comprises fumed silica.

11. The method of claim 1 wherein the ratio of the maximum average diameter of
the attrition modifier to the mean diameter of the microspheroidal particles is
preferably above about 0.01

12. Attrition resistant microspheroidal particles obtainable by the method of claim 1.

13 Attrition resistant catalyst material comprising a catalytically active component
5 supported by the attrition resistant microspheroidal particles of claim 12.

14. The catalyst material of claim 13 wherein the catalytically active component is chosen from gold, palladium, other precious metals, or mixtures thereof.

10 15. The method of claim 13 wherein the attrition resistant catalyst material is formed by impregnation of the microspheroidal particles with the catalytically active component or precursor thereof.

15 16. A method of making monomers for manufacture of a vinyl polymer comprising contacting reactants with the attrition resistant catalyst material of claim 13.

17. The method of claim 16 wherein the catalyst material is in a fluidized state.

20 18. The method of claim 16 wherein the reactants comprise an alpha olefin, a monocarboxylic acid, and oxygen.

19. The method of claim 16 wherein the reactants comprise ethylene, acetic acid, and oxygen.

25 20. The method of claim 16 wherein the reactor is maintained at a temperature of from about 100 to 250 °C.